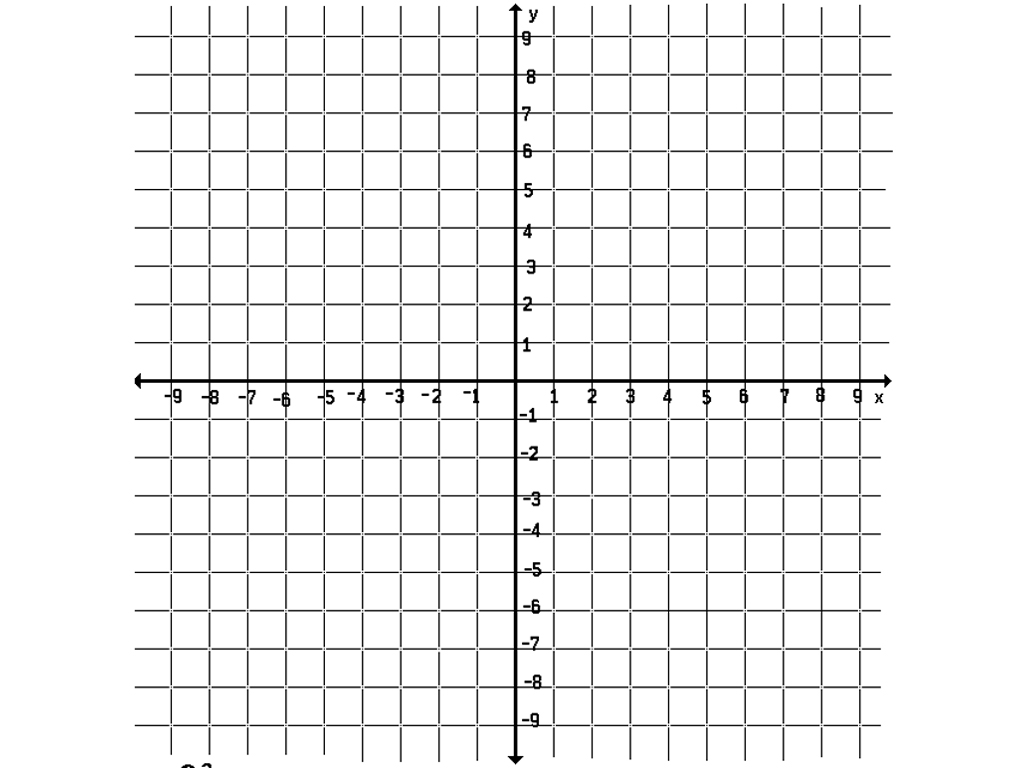
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Per.: \_\_\_\_\_\_\_\_

**Partitioning a Line Segment**

directed line segment: an initial point, P, and a terminal point Q.

* The midpoint of A(6, 4) and B(-2, -8).
* Length of AM = \_\_\_\_\_\_\_\_\_ Length of MB = \_\_\_\_\_\_\_\_\_\_
* Ratio of AM:MB = \_\_\_\_\_\_\_\_\_
* Ratio of AM:MB = 1:3. Where is M located? Verify by finding the new length of AM and MB.



Directions: Given two endpoints, partition the line segment in the ratio indicated. Write your answer as a coordinate point.

1. Find the coordinates of point P on directed line segment AB that partition AB in the ratio 1:1.

A (-3, 4) B (7, 6)

2. Find the coordinates of point P on directed line segment BA that partition BA in the ratio 2:3

A (-9, 3) B (1, 8)

3. Find the coordinates of point P on directed line segment AB that partition AB in the ratio 1:3.

A (8, -5) B (4, 7) 1:3

\* WOAH 4. Find the coordinates of point P on directed line segment AB that partition AB in the ratio 3:4. A (5, -6) B (4, 5)

\* WOAH 5. Find the coordinates of point P on directed line segment AB that partition AB in the ratio 2:3. A (4, 9) B (-5, -3)

\* WOAH 6. Find the coordinates of point P on directed line segment AB that partition AB in the ratio 1:2. A (2, -1) B (-3, -5)